

**From:** KarenD Johnson/R3/USEPA/US  
**Sent:** 12/17/2012 6:56:11 AM  
**To:** Michael Eller/R3/USEPA/US@EPA  
**CC:**  
**Subject:** Re: PNAS paper by Warner et al. (2012) on natural migration of brine

thanks Mike- I saw a summary of this a while ago, but had not found it. Thanks. I'll read soon.. and we can discuss..I thought it was talking about degradation of Marcellus gas after it migrated into an aquifer from poorly constructed wells, like in the Dimock case...

Karen D. Johnson, Chief  
Ground Water & Enforcement Branch

From: Michael Eller/R3/USEPA/US  
To: KarenD Johnson/R3/USEPA/US@EPA  
Date: 12/14/2012 04:57 PM  
Subject: PNAS paper by Warner et al. (2012) on natural migration of brine

Hi Karen,

A paper put out this summer by researchers at Duke and Cal Polytech with possible implications for UIC.  
I have many questions, but it is thought-provoking.  
[attachment "Geochemical evidence for possible natural migration of Marcellus Formation brine to shallow aquifers in Pennsylvania.pdf" deleted by KarenD Johnson/R3/USEPA/US]

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